

WHAT IS CLAIMED IS:

1. A composite vapor barrier for use between one or more spaces defined by the structural elements of a building, said composite vapor barrier comprising:

5 a first facing layer formed from a material that is generally impermeable to water vapor, wherein at least one surface of said first facing layer is applied with an adhesive coating; and

a scrim bonded to said first facing layer;

10 wherein the composite vapor barrier does not substantially rupture when a bag of sand having a weight of approximately 400 pounds and a diameter of approximately 30 inches is dropped onto said composite vapor barrier from a distance of about 42 inches above an upper surface of said composite vapor barrier.

15 2. A composite vapor barrier as defined in claim 1, wherein said first facing layer is formed from a material selected from the group consisting of vinyl, a metallized film, foil, a polyolefin, kraft, and combinations thereof.

3. A composite vapor barrier as defined in claim 1, wherein said first facing layer is formed from a metallized film.

20 4. A composite vapor barrier as defined in claim 1, further comprising a second layer formed from a material that is generally impermeable to water vapor.

25 5. A composite vapor barrier as defined in claim 4, wherein said first and said second facing layers are formed from a material selected from the group consisting of vinyl, a metallized film, foil, a polyolefin, kraft, and combinations thereof.

6. A composite vapor barrier as defined in claim 4, wherein said second facing layer is formed from vinyl.

30 7. A composite vapor barrier as defined in claim 4, wherein said first facing layer is formed from a metallized film and said second layer is formed from vinyl.

8. A composite vapor barrier as defined in claim 1, wherein said scrim is a triaxial scrim.

9. A composite vapor barrier as defined in claim 1, wherein said scrim includes threads formed from polyester fibers.

5 10. A composite vapor barrier as defined in claim 1, wherein said scrim has a weight at least about 2 ounces per square yard.

11. A composite vapor barrier as defined in claim 1, wherein said scrim has a weight of between about 2 ounces per square yard to about 8 ounces per square yard.

10 12. A composite vapor barrier as defined in claim 1, wherein said scrim has a weight of between about 3.0 ounces per square yard to about 6.5 ounces per square yard.

13. A composite vapor barrier as defined in claim 1, wherein said vapor barrier has a weight of between about 3 ounces per square yard to about 10 ounces per square yard.

14. A composite vapor barrier as defined in claim 1, wherein said vapor barrier has a weight of between about 6 ounces per square yard to about 9 ounces per square yard.

15 20 15. A composite vapor barrier as defined in claim 1, wherein said vapor barrier has an average thickness of less than about 0.03 inches.

16. A composite vapor barrier as defined in claim 1, wherein said scrim includes a selvage area that contains an additional number of machine-direction threads.

25 17. A composite vapor barrier as defined in claim 1, wherein said scrim is thermally bonded to said first facing layer.

18. A composite vapor barrier for use between one or more spaces defined by the structural elements of a building, said composite vapor barrier comprising:

30 a first facing layer comprising a metallized film that is generally impermeable to water vapor;

a second facing layer comprising a vinyl material that is generally impermeable to water vapor, wherein at least one surface of at least one of said facing layers is applied with an adhesive coating; and

a triaxial scrim thermally bonded to and positioned between said first and said second facing layers;

wherein the composite vapor barrier does not substantially rupture when a bag of sand having a weight of approximately 400 pounds and a diameter of approximately 30 inches is dropped onto said composite vapor barrier from a distance of about 42 inches above an upper surface of said composite vapor barrier.

19. A composite vapor barrier as defined in claim 18, wherein said scrim includes machine-direction and cross-direction threads.

20. A composite barrier as defined in claim 19, wherein machine-direction and said cross-direction threads are formed from polyester fibers.

21. A composite vapor barrier as defined in claim 19, wherein said scrim includes a selvage area that contains an additional number of machine-direction threads.

22. A composite vapor barrier as defined in claim 18, wherein said scrim has a weight of between about 3.0 ounces per square yard to about 6.5 ounces per square yard.

23. A composite vapor barrier as defined in claim 18, wherein said vapor barrier has a weight of between about 6 ounces per square yard to about 9 ounces per square yard.

24. A method of forming a composite vapor barrier for use between one or more spaces defined by the structural elements of a building, said method comprising:

providing first and second facing layers that are generally impermeable to water vapor;

positioning a scrim adjacent to and between said first facing layer and said second facing layer; and

simultaneously applying heat and pressure to said each of said layers to form a composite vapor barrier with sufficient strength such that the composite vapor barrier does not substantially rupture when a bag of sand having a weight of approximately 400 pounds and a diameter of approximately 30 inches is dropped onto said composite vapor barrier from a distance of about 42 inches above an upper surface of said composite vapor barrier.

25. A method as defined in claim 24, further comprising applying an adhesive coating to at least one surface of at least one of said facing layers.

26. A method as defined in claim 24, wherein said layers are thermally bonded at a temperature between about 25°F to about 350°F.

27. A method as defined in claim 24, wherein said first facing layer comprises a metallized film.

28. A method as defined in claim 24, wherein said second facing layer comprises a vinyl material.

29. A method as defined in claim 24, wherein said first facing layer comprises a metallized film and said second facing layer comprises a vinyl material.

30. A method as defined in claim 24, wherein said scrim is a triaxial scrim.

31. A method as defined in claim 24, wherein said scrim includes threads formed from polyester fibers.

32. A method as defined in claim 24, further comprising embossing at least one surface of said composite vapor barrier to impart texture thereto.